

to its name, bears numerous spines, while the West Virginia plant has none at all, this was a curious case of misidentification.

Opuntia calcicola differs, then, from its relative, *O. compressa*, in often growing on limestone, or in any case on rocks yielding circumneutral soils, in being more upstanding in habit, in having longer and relatively thinner joints of somewhat more bluish color, in the areoles being wide-spaced, and in lacking spines. The flowers are similar in color but larger, and the fruit is normally decidedly longer in proportion to its thickness, the seeds having a more acute and less prominent keel. Even allowing for some variation in these respects shown by the widespread *O. compressa*, the distinctness of the two seems evident. After the aspect of these plants is once in mind, as a result of observing them at one or two typical localities, it is possible to tell which is represented in a given colony from a considerable distance, and this may be regarded as a final criterion of the separateness of the species.

BOTANY.—*New plants from Chiapas collected by C. A. Purpus.*¹

PAUL C. STANDLEY, U. S. National Museum.

The nine species of plants here described as new form part of a large and interesting collection made in the State of Chiapas, Mexico, in 1925 by Mr. C. A. Purpus. Mr. Purpus' Mexican collections are too well known to need comment. Many of the new species found in them were described by the late Townshend S. Brandegee in a series of papers entitled "Plantae Mexicanae Purpusianae," the last of which was issued in 1924.²

***Neea chiapensis* Standl., sp. nov.**

Branchlets terete, pale brownish, minutely and densely grayish-puberulent at first but quickly glabrate; leaves opposite, or the upper verticillate, the petioles slender, 1.2–3 cm. long, glabrate, the blades elliptic or broadly elliptic, 7.5–15 cm. long, 4.5–7 cm. wide, abruptly acute or acuminate, at base acutish or abruptly acute, rarely rounded, thin, glabrous, the lateral nerves very slender, about 7 on each side, arcuate, laxly and irregularly anastomosing near the margin; pistillate inflorescence few-flowered, on a slender peduncle 5 cm. long; fruit elliptic-oblong, 18 mm. long, 9 mm. thick, the stone compressed, coarsely costate.

Type in the U. S. National Herbarium, no. 1,208,246, collected in a ravine in mountains east of Monserrate, Chiapas, Mexico, April, 1925, by C. A. Purpus (no. 271).

No. 414, from the same locality, is perhaps referable here, but in this the leaves are much smaller. The fruit is immature.

All the Central American species of *Neea* are closely related. This one is similar in most respects to *N. psychotrioides* Donn. Smith, but in that the leaves are relatively narrower and shorter-petioled, and the fruit only half as large.

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² Univ. Calif. Publ. Bot. 10: 403–421.

Zarchoxylum tenuipes Standl., sp. nov.

Branchlets unarmed or bearing stout broad-based prickles 1 cm. long; petioles terete, 2-3 cm. long; leaves odd-pinnate, the rachis setulose-hirtellous, the leaflets 5-9, opposite or the lower sometimes alternate, sessile or nearly so, ovate to oblong-elliptic, 3.5-6 cm. long, 1.5-3 cm. wide, acute or obtuse, thin, remotely and very shallowly glandular-crenate or subentire, deep green and somewhat lustrous above, paler beneath, sparsely setulose-hirtellous on both surfaces; inflorescences axillary, lax, few-flowered, paniculate, much shorter than the leaves, slender-pedunculate, the branches very slender, sparsely setulose, the pedicels almost filiform, 6-8 mm. long, glabrous; follicle 1, very oblique, produced at base, glabrous, coarsely glandular-punctate, 5 mm. long; seeds black and shining, 4 mm. long, sharp-edged.

Type in the U. S. National Herbarium, no. 1,208,237, collected in rocky gulch in mountains east of Monserrate, Chiapas, Mexico, July, 1925, by C. A. Purpus (no. 126).

Perhaps related to *Z. mollissimum* (Engler) P. Wilson, but easily recognized by the very long and slender pedicels and scant pubescence.

Buddleia purpusii Standl., sp. nov.

Branches quadrangular, densely stellate-tomentose, the tomentum loose, whitish or fulvescent; leaves sessile, lanceolate, 6-8.5 cm. long, 1.7-3 cm. wide, attenuate to an acute apex, cuneate at base, finely serrate-dentate with acute teeth, entire toward the base, green above, gland-dotted and rather finely stellate-tomentose, the venation impressed, beneath densely tomentose with a tomentum of loose whitish hairs; flowers sessile in dense few-flowered heads, the heads spicate, the spikes paniced; spikes 2-5 cm. long, about 8 mm. thick, sessile, interrupted below, dense and continuous above, often branched; calyx densely stellate-tomentose, the lobes 1-1.5 mm. long, narrowly triangular; corolla densely tomentose outside, 2 mm. long, the lobes ovate-triangular, obtuse; capsule densely tomentose, equaling the calyx lobes.

Type in the U. S. National Herbarium, no. 1,208,235, collected along creek near Monserrate, Chiapas, Mexico, March, 1925, by C. A. Purpus (no. 160).

Jacquemontia mollissima Standl., sp. nov.

Woody vine, the stems red-brown, with few large pale lenticels, when young densely stellate-tomentose with lax spreading hairs; petioles 3-7 mm. long; leaf blades ovate or oval-ovate, 1.5-3 cm. long, 1-2 cm. wide, acute to rounded at apex, sometimes apiculate, rounded or subcordate at base, above densely stellate-pilose, the hairs very slender, long, and soft, with few rays, beneath densely tomentose with long soft whitish hairs; flowers few, solitary or fasciculate in the leaf axils, the pedicels 2-3 mm. long; sepals 3-3.5 mm. long, oval or rounded, rounded at apex, the outer ones densely tomentose; corolla (probably white) 8-10 mm. long, glabrous.

Type in the U. S. National Herbarium, no. 1,208,236, collected on creek banks at Monserrate, Chiapas, Mexico, March, 1925, by C. A. Purpus (no. 47).

In general appearance this plant suggests *J. nodiflora* (Desr.) Don, but in that the sepals are glabrous, and the tomentum of the leaves fine and close.

Columnnea purpusii Standl., sp. nov.

Small epiphytic shrub, the branches very stout, pale brownish or ochraceous, leafy near the tips, sparsely pilose with appressed or ascending hairs;

petioles 4–8 mm. long, densely villous-pilose with ascending, septate, whitish or purplish hairs; leaf blades narrowly elliptic-oblong or lance-oblong, 4–9.5 cm. long, 1–2 cm. wide, acute or acuminate, at base obliquely acute, glabrous above, beneath paler, sparsely setose-pilose along the nerves with pale appressed hairs, sometimes with a few appressed hairs between the nerves, the lateral nerves 3 or 4 on each side, ascending at an acute angle; flowers solitary in the leaf axils, the pedicels 4–12 mm. long, villous-pilose; calyx lobes narrowly lanceolate, rounded at base, 16–18 mm. long, 3–4 mm. wide, attenuate to an acute apex, ciliate, sparsely appressed-pilose outside, entire; corolla bright red, rather densely shorter-villous, the tube 4.5–5 cm. long, 7–9 mm. broad in the throat, the upper lip 2.5–3 cm. long, straight, the lower lip 1.5 cm. long, linear-lanceolate, recurved, the lateral lobes about 1 cm. long, obtuse; anther sacs 2.5 mm. long.

Type in the U. S. National Herbarium, no. 1,208,240, collected in damp forest in mountains near Fenix, Chiapas, Mexico, April, 1925, by C. A. Purpus (no. 239). No. 96 from the same locality also represents the species.

Only three species of *Columnnea* have been reported from Mexico. *C. flava* Mart. & Gal. has yellow flowers. *C. erythrophoea* Decaisne is closely related to *C. purpusii*, but has cordate and dentate, rose-colored calyx lobes. *C. schiedeana* Schlecht. is distinguished from the present plant by its spotted corolla and copiously pubescent leaves.

***Columnnea stenophylla* Standl., sp. nov.**

Small epiphytic shrub, the branches reddish or pale brownish, when young pilose with stiff, appressed or ascending, septate hairs; petioles stout, 3–5 mm. long, pilose; leaf blades linear-lanceolate to linear, 6–9.5 cm. long, 0.5–1.5 cm. wide, long-attenuate, obliquely acute at base, glabrous above, beneath paler, sparsely pilose with very slender, long, appressed, lustrous hairs, the lateral nerves inconspicuous; pedicels axillary, solitary, 4–8 mm. long, pilose with ascending hairs; calyx lobes lanceolate or linear-lanceolate, 15–18 mm. long, 2.5–5 mm. wide, long-attenuate, rounded at base, entire, green, densely appressed-pilose with very slender, whitish, multiseptate hairs; corolla bright red, densely villous with very long, slender, spreading, red hairs, the tube 4.5 cm. long, 9 mm. wide in the throat, the upper lip broadly oblong, rounded at apex, 3 cm. long, 1.3 cm. wide, the lower lip triangular-oblong, 1.5 cm. long, acutish, the lateral lobes obtuse, 1–1.5 cm. long.

Type in the U. S. National Herbarium, no. 567513, collected at Finca Irlanda, Chiapas, Mexico, June, 1914, by C. A. Purpus (no. 7206). Collected also at Cafetal Copalito, Oaxaca, May, 1917, by Blas P. Reko (no. 3894).

A relative of *C. purpusii* but distinguished by the narrow leaves and the long pubescence of the corolla.

The species of *Columnnea* are among the most beautiful plants of tropical America because of the large, brightly colored (usually red) flowers. Only a few species reach the mountains of southern Mexico, but in Costa Rica the genus attains probably its greatest development, and the number of species occurring there is very large.

***Hillia chiapensis* Standl., sp. nov.**

Small epiphytic shrub, glabrous throughout; stipules oblong to obovate, 3–4 mm. long, rounded at apex, caducous; petioles 2 mm. long or less; leaf

blades elliptic or oblong-elliptic, 9–14 mm. long, 4–7 mm. wide, rounded at apex, obtuse or acutish at base, fleshy, the lateral nerves inconspicuous, ascending at very acute angle; capsule sessile, 17–22 mm. long, the valves after dehiscence 3–4 mm. wide.

Type in the U. S. National Herbarium, no. 1,208,244, collected in damp forest in mountains near Fenix, Chiapas, Mexico, April, 1925, by C. A. Purpus (no. 262).

Of the three other species of *Hillia* known from North America, only *H. tetrandra* Swartz could be confused with this Mexican plant. That species is much larger in all its parts, and I have no doubt that the Chiapas plant, although represented only by incomplete material, is specifically distinct.

***Psychotria chlorobotrya* Standl., sp. nov.**

Branches green, subterete, glabrous, smooth; stipules distinct, green, herbaceous, persistent, glabrous, broadly triangular-ovate, 5 mm. long, bilobate to the middle, the lobes acute; petioles slender, 1.5–4.5 cm. long, remotely and minutely puberulent or glabrous; leaf blades narrowly elliptic to lance-elliptic or oblanceolate, 8–23 cm. long, 2–7 cm. wide, long-acuminate, acute at base or usually long-attenuate, thin, bright green above and glabrous, beneath slightly paler, glabrous or along the nerves sparsely and obscurely puberulent, the lateral nerves 12–16 pairs, divergent at an angle of 45° or more, arcuate, obscurely anastomosing near the margin; inflorescence terminal, cymose-paniculate, dense, many-flowered, the peduncles 2–3 cm. long, puberulent, the panicles 1.5–4.5 cm. long, the flowers in dense headlike cymes on puberulent peduncles 1 cm. long or shorter; bracts ovate, green, obtuse or acute, 5–8 mm. long; bractlets broadly ovate to obovate, obtuse, green, glabrous or nearly so, much exceeding the calyx; calyx about 2 mm. long, 5-lobate, the lobes about 1 mm. long, ovate or deltoid, obtuse or acute, unequal, green, glabrous; corolla salverform, 4 mm. long (not fully developed), glabrous, with short obtuse lobes.

Type in the U. S. National Herbarium, no. 1,208,242, collected in damp forest in mountains near Fenix, Chiapas, May, 1925, by C. A. Purpus (no. 104). No. 83, from the same locality, also is referable here.

The species is well marked among those of Mexico by the large green bractlets, which nearly conceal the flowers.

***Psychotria phoeniciana* Standl., sp. nov.**

Branches subterete, glabrous; stipules persistent, intrapetiolar, bilobate, united, the sheath 3 mm. long, the lobes obliquely ovate or triangular, acute, glabrous; petioles slender, 2.5–5 cm. long, glabrous; leaf blades oblong-lanceolate to ovate-lanceolate, 10–17 cm. long, 3.5–4.5 cm. wide, acuminate, cuneate-acute at base or sometimes abruptly acute, thin, glabrous, slightly paler beneath, the lateral nerves about 17 pairs, divergent at an angle of about 60°, arcuate, laxly anastomosing near the margin; inflorescence terminal, glabrous, the peduncle 15 cm. long, curved, the flowers very numerous, corymbose-paniculate, the panicle much branched, 10 cm. long, 15 cm. broad, the pedicels slender, 10–15 mm. long; bracts triangular, acute, 1–2.5 mm. long, the bractlets minute; calyx limb scarcely 1 mm. long, 5-lobed to the middle, the lobes ovate, obtuse, glabrous; fruit oval, 5 mm. long, 4 mm. thick, 10-costate, the nutlets concave and sulcate on the inner face.

Type in the U. S. National Herbarium, no. 1,208,247, collected in damp forest in mountains near Fenix, Chiapas, Mexico, May, 1925, by C. A. Purpus (no. 316).

Although not marked by any outstanding characters, unless it be the large inflorescence and long pedicels, this plant seems distinct from any *Psychotria* of Mexico or Central America that is known to the writer.

ENTOMOLOGY.—*New termites from Guatemala, Costa Rica, and Colombia.* THOS. E. SNYDER, Bureau of Entomology, U. S. Department of Agriculture.

The seven new termites described in this paper were collected by Dr. W. M. Mann, of this Bureau, in the winter and spring of 1924, and by Mr. F. Neverman, of Costa Rica, late in 1924 and in 1925; a portion of this material has already been described.¹ In addition to descriptions of the new species, new geographical distribution records of known termites based on these collections are given.

Most of the new species represent "powder-post" termites or potential house termites, and may become of economic importance. The writer uses the term powder-post termites for certain groups in the family Kalotermitidae; the impressed pellets of finely digested, excreted wood fall from wood infested by these termites and reveal their presence. Such termites must be rigidly excluded and guarded against by Federal quarantines; they are likely to be introduced in furniture, and become cosmopolitan in distribution. *Kalotermes (Cryptoterme) brevis* Walker occurs from Florida in the United States to the West Indies, Central and South America, and South Africa.

Powder-post termites live in hard dry wood and are difficult to collect, hence, since they are not conspicuous, many new species are being found when specially sought after by such excellent collectors as Dr. Mann and Mr. Neverman. No single specimen was definitely designated as a holotype; since the specific descriptions were made from a series, these specimens are cotypes.

Family KALOTERMITIDAE

Kaloterme (Rugiterme) costaricensis, new species

Winged adult.—Head yellow-brown (light castaneous-brown), smooth, shining, longer than broad, sides almost parallel, rounded posteriorly, with fairly dense long hairs. Postclypeus white, tinged with yellow, short but broad. Labrum light yellow-brown, broader than long, broadly rounded to

¹ SNYDER, T. E.: *New American termites.* This JOURNAL 15: 152-162. 1925.